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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/606,511

06/25/2003

Jeffrey P. Rupley

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11/18/2005

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EXAMINER

TREAT, WILLIAM M

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,511

Applicant(s)

RUPLEY ET AL.

Examiner

William M. Treat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,8-12 and 14-21 is/are rejected.
- 7) ☒ Claim(s) 3,6,7 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. Claims 1-21 are presented for examination.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 8-10 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claims 8-10, the word, "capable", is indefinite because it is unclear what applicants' intended metes and bounds of the claim are since it appears to cover anything and everything that does not prohibit the actions described within the claims from occurring.

5. Regarding claims 14-15 which depend from independent claim 11, applicants' define "x" in claim 11 as the number of NOP instructions in an instruction bundle but then seem to redefine "x" in claim 14 and its dependent claim 15 as the number of non-NOP instructions in the bundle. Since the limitations of the independent claim are supposed to be present in the dependent claim, the divergent definitions obscure the metes and bounds of applicants' claims.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 1-2, 4-5, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (Patent No. 5,893,143).

8. Tanaka taught the invention of exemplary claim 1 including an apparatus (1) comprising: a memory storage structure to hold a bundle of instructions (100a, 100b, 100c, 100d); a buffer (200), the buffer (200) including an information field (Figs. 6 and 15), the buffer further including a no-operation instruction (NOP) indicator field (Figs. 6 and 15); and folding logic to place, responsive to a NOP in the bundle, a "present" value in the NOP indicator field (col. 7, lines 33-40).

9. The examiner is interpreting the fields of the mask (702) stored in the tag memory/buffer (200) which indicate the presence of a non-NOP instruction as information fields and the fields of the mask (702) which indicate where a NOP was located in the instruction bundle as NOP indicator fields. The examiner is also interpreting the compiler of Tanaka (col. 7, lines 33-37) to be the folding logic. There is no universally accepted definition for folding logic in the art, and since Tanaka's compiler has the functionality being claimed for applicants' folding logic, the examiner's interpretation is consistent with giving applicant the broadest reasonable interpretation of his claim language.

10. As to claim 2, Tanaka taught the apparatus of claim 1, wherein: the folding logic is further to allocate the information field for a non-NOP instruction in the bundle (col. 7, lines 33-37).

11. As to claim 4, Tanaka taught the apparatus of claim 1, wherein: the memory storage structure is a queue to hold a plurality of bundles (720).

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12. As to claim 5, Tanaka taught the apparatus of claim 1, wherein: the buffer is to hold a plurality of entries (720).

13. As to claim 11, it fails to teach or define over rejected claims 1-2 and 4-5.

14. As to claim 12, Tanaka taught the method of claim 11, wherein allocating further comprises: if $x = 0$, allocating a corresponding entry in the buffer for each of the n instructions (Figure 6).

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (Patent No. 5, 893,143 in view of Boyd et al. (Patent No. 5,895,487).

18. Tanaka taught all the elements of the invention of claim 16 (see paragraphs 8-14, *supra*) except he did not teach his cache memory for storing instruction bundles (100a,

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100b, 100c, 100d) as a dynamic random access memory (DRAM). However, Boyd (Abstract) teaches DRAM cache memory was known in the art at the time of applicants' invention. One of ordinary skill would be motivated to utilize a DRAM cache because of the high capacity available in relation to chip real estate consumed.

19. As to claims 17-19, see paragraphs 8-14 and 18, *supra*.

20. As to claim 20, when $x=3$ (Fig. 6, 720), there are $(4-1=3)$ NOP indicator fields in the mask with 3 zeroes indicating the presence of 3 NOP instructions.

21. As to claim 21, see paragraphs 8-14 and 18-20, *supra*.

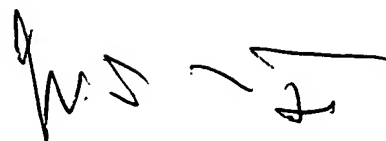
22. Claims 3, 6-7, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. Any inquiry concerning this communication should be directed to William M. Treat at telephone number (571) 272-4175. The examiner works at home on Wednesdays but may normally be reached on Wednesdays by leaving a voice message using his office phone number. The examiner also works a flexible schedule but may normally be reached in the afternoon and evening on three of the four remaining weekdays.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'W. M. Treat', with a stylized flourish at the end.

**WILLIAM M. TREAT
PRIMARY EXAMINER**